Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force

R-1 ITEM NOMENCLATURE

3600: Research, Development, Test & Evaluation, Air Force

PE 0207449F: C2 Constellation

DATE: February 2011

BA 7: Operational Systems Development

APPROPRIATION/BUDGET ACTIVITY

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| Total Program Element | 29.378 | 24.229 | 18.102 | - | 18.102 | 18.113 | 16.869 | - | - | Continuing | Continuing |
| 675078: Horizontal Integration | 15.356 | 10.863 | 8.365 | - | 8.365 | 8.522 | 8.516 | - | _ | Continuing | Continuing |
| 675140: Joint Expeditionary Force Experiments | 14.022 | 13.366 | 9.737 | - | 9.737 | 9.591 | 8.353 | - | - | Continuing | Continuing |

Note

The program funding includes reductions for efficiencies that are not intended to impact program content. The efficiencies reductions total \$2.262M in FY12.

A. Mission Description and Budget Item Justification

The Command and Control Constellation (C2C) is the primary Air Force program for defining, developing and assessing integrated effects of global, theater and tactical level Air Force air, space and cyber Command and Control (C2) capabilities in support of the joint warfighter. The Air Force faces a complex future where conflict will range across a broad spectrum of operations and lethality. The Air Force requires capabilities with the maximum possible flexibility to deal with the widest possible range of conflict. The black and white distinction between irregular war and conventional war is an outdated model. Near-peers will use irregular or asymmetric tactics that target traditional strengths. Irregular warfare brings non-conventional adversaries that require non-conventional approaches for defeating them. The C2C is the enabling PE for future C2 Integration/Modernization. The Air Force is working to establish a C2 Framework to be used as a unifying vision of command and control for each of the services core functions and core function master plans. C2C will support the C2 Framework by providing a venue for prototyping, experimentation and innovation to develop non-conventional solutions and enable an improved "sense-to-kill" cycle time. C2C innovations and experimentation provides strategic, operational, and tactical direction for Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel and Facilities (DOTMLPF) solutions to facilitate the integration of Global Effects that support Command and Control, Intelligence, Surveillance and Reconnaissance (C2ISR) planning and execution for air, space, and cyberspace. In-depth development and analyses of C2C operational, systems, and technical architectures are geared towards identifying capability gaps, identifying required "TO BE" information services, and evaluating Command and Control, Intelligence, Surveillance and Reconnaissance (C2ISR) program planned improvements. Through prototyping and experimentation, C2C will integrate rapidly develop

Project 5078, Horizontal Integration (HI) conducts DOTMLPF analysis and assessments to guide cross-cutting net-centric, C2ISR sub-enterprise and cyberspace investment decisions that integrate USAF capabilities into joint and coalition operations. HI identifies, prioritizes, and develops horizontally integrated solution recommendations to ensure the latest technologies and information services are integrated into a cross cutting net centric C2 system that enables integrated Global Effects in all warfighter domains. The Fiscal Year 2012 strategy will be validated by HQ AF/A3 and AF/A5 to ensure that initiatives are harmonized with the most urgent warfighter needs described in the Air Force Capabilities Review and Risk Assessment and the Joint Forces Command Warfighter challenge program. Once validated, HI funds are applied toward identifying the most critical warfighter capabilities and ensuring they are horizontally integrated into both Air Force and Joint C2ISR programs of record.

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| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force | | DATE: February 2011 |
|---|-------------------------------|---------------------|
| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | |
| 3600: Research, Development, Test & Evaluation, Air Force | PE 0207449F: C2 Constellation | |

BA 7: Operational Systems Development

Project 5140, Joint Expeditionary Force Experiments (JEFX) has transitioned from a large biennial warfighting experiment to more agile, smaller and frequent innovation-focused experiments leading to pre-fielding operational assessments. Constructive, live-fly and virtual force operationally representative warfighter environments are created to focus on critical C2ISR areas of interest that support the Joint warfighter. This includes C2ISR innovation that supports the air, space and cyberspace domains. JEFX provides a vehicle for experimentation with emerging operational concepts and attendant new technologies that fill operational gaps in Air Force capabilities to meet emerging real world threats. The JEFX strategy is validated by Headquarters Air Combat Command (HQ ACC) and coordinated with AF/A3 and A5 ensuring initiatives are harmonized with the most urgent warfighter needs described in the Air Force Capabilities Review Risk Assessment and the Joint Forces Command Warfighter Challenge Program. JEFX themes are based on emerging CONOPS and warfighter challenges. JEFX initiatives are important enablers of innovation and transformation and are designed to support the themes and demonstrate emerging Air Force capabilities to deploy and employ decisive air, space and cyberspace power in support of the Joint Force.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Previous President's Budget | 30.293 | 24.229 | 21.924 | - | 21.924 |
| Current President's Budget | 29.378 | 24.229 | 18.102 | - | 18.102 |
| Total Adjustments | -0.915 | - | -3.822 | - | -3.822 |
| Congressional General Reductions | | - | | | |
| Congressional Directed Reductions | | - | | | |
| Congressional Rescissions | - | - | | | |
| Congressional Adds | | - | | | |
| Congressional Directed Transfers | | - | | | |
| Reprogrammings | - | - | | | |
| SBIR/STTR Transfer | -0.787 | - | | | |
| Other Adjustments | -0.128 | - | -3.822 | - | -3.822 |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 675078: Horizontal Integration

Congressional Add: Global Air Presentation System/Airborne Web Services (GAPS/AWS) Horizontal Integration

| APS/AWS) Horizontal Integration | 3.922 | |
|---|-------|--|
| Congressional Add Subtotals for Project: 675078 | 3.922 | |
| Congressional Add Totals for all Projects | 3.922 | |

FY 2010

FY 2011

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| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force | e | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | R-1 ITEM NOMENCLATURE PE 0207449F: C2 Constellation | |
| Change Summary Explanation In FY 2012: The program has been funded to latest cost est Reductions for efficiencies in FY 2010 through 2014 are not programs at a later date. Amounts of the reductions are: \$2 \$17.866M/FY16. | t intended to impact program content. Reduction 2.262M/FY12, \$1.560M (Cursor-on-Target)/FY12 | s for efficiencies may be spread to other Air Force 2, \$2.493M/FY13, \$2.794M/FY14, \$17.465M/FY15, |
| In FY 2012-2016, \$7.774M from Project 5078, Horizontal Interference of the Project 5078, Horizontal Interferenc | tegration, transferred to PE 064281F, Tactical D | Pata Networks, to support Cursor-on-Target (CoT) |
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| | EXHIBIT R-2A, RD1&E Project Justification: PB 2012 Air Force | | | | | | | | | DATE: February 2011 | | | |
|--|--|--------|--------|----------------|---|---------|---------|---------|---|---------------------|------------|------------|--|
| | | | | | R-1 ITEM NOMENCLATURE PE 0207449F: C2 Constellation | | | | PROJECT 675078: Horizontal Integration | | | | |
| COST (\$ in Millions) FY 2010 FY 2011 Base | | | | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost | | |
| | 675078: Horizontal Integration | 15.356 | 10.863 | 8.365 | _ | 8.365 | 8.522 | 8.516 | _ | _ | Continuing | Continuing | |

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A. Mission Description and Budget Item Justification

Quantity of RDT&E Articles

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Project 5078, Horizontal Integration (HI), is established to develop a Global Effects integrated capability to support cross-cutting net-centric solutions across air, space and Cyberspace C2ISR Warfighter domain. HI activities include studies and analysis, technology development, risk reduction, prototyping, experimentation and transition. These activities are required to identify, design, develop, experiment and implement C2ISR solutions supporting warfighting integration and interoperability needs which are not the sole responsibility of a specific program of record. The nature of integrated and interoperable C2ISR warfighting capabilities span multiple platforms and domains; these capabilities are routinely overlooked by traditional programs dedicated to supporting the requirements of specific warfighting communities. The HI Project is uniquely designed to look across these platforms and domains, which enables the Air Force to respond to the needs across the seams of individual systems. These horizontal integration initiatives will be prototyped, assessed, appropriately captured in requirements documents and then transitioned to programs of record for production, fielding and sustainment. Systems Engineering and Analysis is the 'glue' that holds C2C elements together, and closes the seams in the Command, Control, Communications Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) architectures. Capability analysis identifies areas where interoperability can be improved within the Air Force, among joint services, and among coalition partners. Once capability issues are identified, they are prioritized and pilot initiatives are developed to provide solutions to the warfighter challenges that resolve the capability gaps. The HI Project also helps to competitively prototype integrated solutions against validated program requirements. The benefits of this activity are two-fold: the operational community is able to weigh the cost, risk, and performance trade-offs between enterprise solutions versus program centric solutions; and the activity supports the DoDI 5000.02 requirement for competitive prototyping for all ACAT programs. The synchronization of HI prototyping and program milestone requirements offers an effective environment for increasing interoperability while reducing the impact of this policy on multiple pre-milestone B programs. Modeling and Simulation (M&S) Infrastructure and Experimentation leverage existing government/industry simulation sites that allow 'virtual' assessments of the C2 Constellation. This Infrastructure environment manages a continuous distributed operational environment that supports air, space, and cyberspace C2ISR and rapid acquisition, prototyping, development, integration, and fielding. C2ISR initiatives use this infrastructure to mature their development status prior to entry into JEFX for final operational assessment. The HI prototype performances are assessed for operational utility; the most promising initiatives/technologies will be matured and transitioned into weapon system configuration control baselines. Requirements documents will be published and revised, and a requirements database and implementation plan identifying the most significant C2C net-centric integration issues will be updated to catalog the activities necessary to accomplish this integration. This program is in Budget Activity 7 - Operational System Development because it provides developers, testers and warfighters a way to experiment, analyze, and explore operational concepts and new technologies to enhance operational system developments and improve future capabilities leading to a horizontally integrated C2ISR Warfighter Sub-enterprise.

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|-----------------|----------------|------------------|
| Title: Reqmts and CBP | 4.320 | 3.440 | 2.650 | - | 2.650 |
| Description: Requirements/Capabilites Based Planning (CBP) | | | | | |

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|---|---|---------|---|----------------|------------------|-------|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force | | | D | ATE: Febru | ary 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | R-1 ITEM NOMENCLATURE PE 0207449F: C2 Constellation | | PROJECT 675078: Horizontal Integration | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | | |
| FY 2010 Accomplishments: Continue CBP efforts. | | | | | | | |
| FY 2011 Plans: Will develop and document integrated Command and Control (C2) defense. Will analyze and document emerging Air Force (AF) C2 Focus on the Future C2 Integration/Modernization Strategy. Name support in the Langley Air Force Base Operations Support Center Operating Environment (IOE) Space, IOE Electronic Warfare Battle Combat Support and Joint Air Ground Integration Cell (JAGIC). | requirements. ly integration of material sources with theater (OSF). Concentrating efforts on Integrated | | | | | | |
| FY 2012 Base Plans: Refine integrated Air and Missile Defense C2 requirements. Conti Strategy. | nue Future C2 Integration/Modernization | | | | | | |
| FY 2012 OCO Plans: | | | | | | | |
| Title: Arch and SE | | 0.406 | 0.499 | 0.364 | - | 0.364 | |
| Description: Architecture Development and Systems Engineering | | | | | | | |
| FY 2010 Accomplishments: Continued to participate in and support planning for the Joint Air G analysis. Work with the Army, AF & USMC as well as ESC/XR and (JEFX) to produce a plan that identifies scope of the analysis assu to be analyzed, and measures to be assessed. | d Joint Expeditionary Force Experiment | | | | | | |
| FY 2011 Plans: Efforts will continue in support of functional and engineering analysemphasis on Air-Ground Modernization, C2 of ISR Integration, Dy | | | | | | | |
| FY 2012 Base Plans: Technical expertise supporting functional and engineering analysis with specific emphasis on Air-Ground Modernization, C2 of ISR In of Cyber. | | | | | | | |
| FY 2012 OCO Plans: | | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force | | | D | ATE: Febru | ary 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | R-1 ITEM NOMENCLATURE PE 0207449F: C2 Constellation | PROJECT 675078: Horizontal Integration | | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | |
| Title: Analysis Integ and SE | | 0.506 | 0.805 | 0.519 | _ | 0.519 | |
| Description: Analysis Integration and Systems Engineering | | | | | | | |
| FY 2010 Accomplishments: Work on improved Battle Damage Assessment (iBDA), which is an 1 BDA information by culling munitions and asset data from Link-1 information in the ATO and producing a Joint Munitions Effectivener. The effort will come to completion and transition to a Program of R clean up and documentation, which will be necessary in order to tree. | 6, associating it with target and asset ess Manual (JMEM) probability of destruction. Record (PoR). Efforts remaining are code | | | | | | |
| FY 2011 Plans: Analysis and integration efforts will continue. Specific focus areas real world needs and C2/ISR enterprise PoR requirements. Will capability developed in previous years. | | | | | | | |
| FY 2012 Base Plans: Analysis and integration efforts will continue. Specific focus areas world needs, C2/ISR enterprise and C2 of Cyber PoR requirement prototype capability developed in previous years. | · | | | | | | |
| FY 2012 OCO Plans: | | | | | | | |
| Title: Ops-Tech Analysis-Concept Dev't | | 2.687 | 2.623 | 1.533 | - | 1.533 | |
| Description: Ops/Tech Analysis and Concept Development | | | | | | | |
| FY 2010 Accomplishments: Space/Cyber. Develop FY12 Science and Technology Program Canalysis of critical Numbered Air Force's capability shortfalls. Devintegration of non-kinetic "strike effects" capabilities into an integracyber C2 IOE integration concepts and space situational awarenes and execution. | elop and assess prototype solutions for ated mission package. Develop and assess | | | | | | |
| FY 2011 Plans: Area Air Forces Forward. Will develop and prototype a capability for 8AF. Will develop an Integrated Operational Environment capa | | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force | | | D | ATE: Febru | ary 2011 | | |
|---|---|--|---------|-----------------|----------------|------------------|--|
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | R-1 ITEM NOMENCLATURE PE 0207449F: C2 Constellation | PROJECT 675078: Horizontal Integration | | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | |
| supporting theater planning efforts. Will investigate a multi-level sembility and weather data in support of political/military operations. Operating Environment concept to guide AF integration of Commencessary material and non-material capabilities to enable the effer flow of monitoring, assessment, planning and execution data. | Continue Developing an Integrated and and Control (C2) and provide the | | | | | | |
| FY 2012 Base Plans: Support synchronized modernization of TACS and global C2 center programs. Enable a collaborative Integrated Operating Environme capabilities in support of Joint operations. Improve real time inform execution phases. | nt (IOE) to present , plan and execute AF | | | | | | |
| FY 2012 OCO Plans: | | | | | | | |
| Title: M&S, Infrastructure and Expt | | - | - | - | - | - | |
| Description: M&S Infrastructure and Experimentation | | | | | | | |
| FY 2010 Accomplishments: Re-use M&S infrastructure tools/systems in experimentation venue and Procedures for Joint Warfighters. | es for further refinement of Tactic, Techniques | | | | | | |
| FY 2011 Plans: | | | | | | | |
| FY 2012 Base Plans: | | | | | | | |
| FY 2012 OCO Plans: | | | | | | | |
| Title: HI Solutions Assessments | | 3.515 | 3.496 | 3.299 | - | 3.299 | |
| Description: Horizontal Integration Solutions Assessment | | | | | | | |
| FY 2010 Accomplishments: In order to foster enterprise integration across C2ISR programs and competitive prototyping, initiatives were selected for execution in F selected for execution: continuation of the Unmanned Aircraft Systemitiative; prototyping an Air Mission Information Service (AMIS) unsupport deliberate and immediate mission planning; and prototyping | Y10. Three prototyping efforts have been tems (UAS) C2 efforts under the MAESTRO der the guidance of the AO COI that will | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force | | | D | ATE: Febru | ary 2011 | |
|---|---|---------|--|-----------------|----------------|------------------|
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | R-1 ITEM NOMENCLATURE PE 0207449F: C2 Constellation | | PROJECT 675078: Horizontal Integration | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| tool based on SOA technology. Additional program increase of \$3. Global Air Presentation System (GAPS) and Airborne Web Service | | | | | | |
| FY 2011 Plans: Initiatives are selected for execution that will foster enterprise integ the DoDI 5000.02 requirement for competitive prototyping. A data of initiatives selected for funding in FY11 include: Extension to support Awareness (Map-The Mission); Extended capabilities for Air-Groum (TBMCS) with a number of Army systems (AFATDS, TAIS, AMDW capabilities to address identified shortcomings during IMDE operate | call was issued in third quarter FY10 and the rt of near-term Cyber integration for situation and Modernization to integrate AF systems (S) to share air space information; Gap filling | | | | | |
| FY 2012 Base Plans: Continue selection of Initiatives for execution that will foster enterprograms and support the DoDI 5000.02 requirement for competitive third quarter FY11 and the submission will be evaluated and select FY12. | | | | | | |
| FY 2012 OCO Plans: | | | | | | |
| Acco | omplishments/Planned Programs Subtotals | 11.43 | 4 10.863 | 8.365 | - | 8.36 |
| | | FY 2010 | FY 2011 | | | |
| Congressional Add: Global Air Presentation System/Airborne We Integration | b Services (GAPS/AWS) Horizontal | 3.92 | 2 - | | | |
| FY 2010 Accomplishments: For the Global Awareness Presentat of a visualization system that provided fused situation awareness a commanders. For the Airborne Web Services (AWS), continued to NetCentric Warfare capability that provided web services the capability and ground user. | and strategic information to USTRATCOM migrate JSTARS and AWACS towards a | | | | | |
| FY 2011 Plans: | | | | | | |
| | Congressional Adds Subtotals | 3.92 | 2 | 1 | | |

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force

APPROPRIATION/BUDGET ACTIVITY R-1 ITEM NOMENCLATURE PROJECT

3600: Research, Development, Test & Evaluation, Air Force PE 0207449F: C2 Constellation 675078: Horizontal Integration

BA 7: Operational Systems Development

C. Other Program Funding Summary (\$ in Millions)

| | | | FY 2012 | FY 2012 | FY 2012 | | | | | Cost To | |
|------------------|---------|---------|-------------|---------|--------------|---------|---------|---------|---------|------------|-------------------|
| <u>Line Item</u> | FY 2010 | FY 2011 | <u>Base</u> | OCO | <u>Total</u> | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Complete | Total Cost |
| • N/A: | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |

D. Acquisition Strategy

This project uses full and open competition for operational requirements document creation, systems engineering & architecture development, modeling & simulation and experimentation, joint interoperability/integration, and horizontal integration approaches.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force

BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0207449F: C2 Constellation

PROJECT

675078: Horizontal Integration

DATE: February 2011

| Product Development (| \$ in Millio | ns) | | FY 2 | 2011 | FY 2 Ba | | _ | | FY 2012 Total | | | |
|--|------------------------------|---|------------------------------|-------|---------------|------------|---------------|------|---------------|------------------|---------------------|------------|--------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Requirements/Capability Based Planning (CBP)/ GAPS/ AWS Horizontal Integration | C/FFP | MITRE Corp:ESC, Hanscom AFB, MA | 0.259 | - | | - | | - | | - | 0.000 | 0.259 | 0.259 |
| Requirements/Capability Based Planning (CBP) | C/CPFF | Northrop Grumman:AFRL Rome, Langley AFB, VA | 3.771 | 3.032 | Oct 2010 | 2.400 | Oct 2011 | - | | 2.400 | Continuing | Continuing | TBD |
| Architecture Development and Systems Engineering/ GAPS/ AWS Horizontal Integration | C/FFP | MITRE CORP:ESC HAFB, MA | 0.200 | 0.289 | Nov 2010 | 0.228 | Nov 2011 | - | | 0.228 | Continuing | Continuing | TBD |
| Analysis, Integration, and SE/ Capability Roadmaps (2) | C/FFP | MITRE:HAFB, MA | 0.300 | 0.595 | Nov 2010 | 0.383 | Nov 2011 | - | | 0.383 | Continuing | Continuing | TBD |
| Tech Analysis and Concept Development | C/CPFF | Northrup Grumman:AFRL Rome, NY | 1.662 | 1.775 | Nov 2010 | 1.239 | Nov 2011 | - | | 1.239 | Continuing | Continuing | TBD |
| Tech Analysis and Concept Development (1) | C/CPFF | BAE:AFRL Rome, NY | 0.475 | 0.440 | Oct 2010 | 0.044 | Oct 2011 | - | | 0.044 | Continuing | Continuing | TBD |
| Horizontal Integration Solution Assessment (1) | C/FFP | MITRE:HAFB, MA | 3.000 | 1.828 | Nov 2010 | 1.700 | Oct 2011 | - | | 1.700 | Continuing | Continuing | TBD |
| Horizontal Integration Solution Assessment | C/Various | Not specified.:HAFB, MA | 0.309 | 1.457 | Nov 2010 | 1.463 | Oct 2011 | - | | 1.463 | Continuing | Continuing | TBD |
| HI Sol Assess - Congressional Add GAPS/AWS | C/CPFF | Prologic:HAFB, MA | 3.564 | - | | - | | - | | - | 0.000 | 3.564 | 3.564 |
| | | Subtotal | 13.540 | 9.416 | | 7.457 | | - | | 7.457 | | | |

| pport (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | | | |
|------------------------------|-----------------------------------|--|--|---|---|--|---|--|----------------------|--|---|--|
| Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| C/FFP | Quantech PASS:ESC, HAFB, MA | 0.026 | 0.062 | Nov 2010 | - | Nov 2011 | - | | - | 0.000 | 0.088 | 0.000 |
| Various | Various:ESC, HAFB, MA | 0.174 | 0.095 | Nov 2010 | - | Nov 2011 | - | | - | 0.000 | 0.269 | 0.000 |
| | Method & Type C/FFP | Method & Performing Activity & Location C/FFP Quantech PASS:ESC, HAFB, MA Various Various:ESC, HAFB, | Method & Type Performing Activity & Location Years Cost C/FFP Quantech PASS:ESC, HAFB, MA 0.026 Various Various:ESC, HAFB, 0.174 | Contract Method & Type Performing Activity & Location Total Prior Years Cost C/FFP Quantech PASS:ESC, HAFB, MA 0.026 0.062 Various Various:ESC, HAFB, 0.174 0.095 | Contract Method & Total Prior Method & Type Performing Activity & Location Total Prior Years Cost Award Date C/FFP Quantech PASS:ESC, HAFB, MA 0.026 0.062 Nov 2010 Various Various:ESC, HAFB, O.174 0.095 Nov 2010 | Contract Performing Activity & Location Cost Cos | Contract Method & Type Performing Activity & Location Total Prior Years Cost Award Date Award Cost Award Date C/FFP Quantech PASS:ESC, HAFB, MA 0.026 0.062 Nov 2010 - Nov 2011 Various Various:ESC, HAFB, 0.174 0.095 Nov 2010 - Nov 2011 | Contract Method Performing Activity & Location Cost Cost Cost Date Cost Date Cost C | FY 2011 Base OCO | Contract Method Performing Activity & Location Cost Cost Cost Date Cost Date Cost C | Contract Method & Performing Activity & Location Cost Cost Date Cost Date Cost Date Cost Date Cost Complete C/FFP Quantech PASS:ESC, HAFB, 0.026 0.062 Nov 2010 - Nov 2011 - 0.000 Various Various:ESC, HAFB, 0.174 0.095 Nov 2010 - Nov 2011 - 0.000 | Contract Method & Performing Activity & Location Cost Cost Cost Date Cost Date Cost Date Cost C |

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force DATE: February 2011 APPROPRIATION/BUDGET ACTIVITY **R-1 ITEM NOMENCLATURE PROJECT** 3600: Research, Development, Test & Evaluation, Air Force PE 0207449F: C2 Constellation 675078: Horizontal Integration BA 7: Operational Systems Development FY 2012 FY 2012 FY 2012 Support (\$ in Millions) FY 2011 oco Base Total **Total Prior** Contract Target Method Performing Years Award Award Award Cost To Value of **Cost Category Item Activity & Location** Cost Cost Date Cost **Total Cost** Contract & Type Cost Date Date Cost Complete Jacobs. ETASS:ESC. Support Assessment - 3 C/FFP 0.009 0.050 Nov 2010 Nov 2011 0.000 0.059 0.000 HAFB, MA Spectrum: AFRL Rome, Support Assessment - 4 C/CPFF 1.100 0.816 Sep 2010 0.500 Nov 2011 0.500 0.000 2.416 0.000 NY Subtotal 1.309 1.023 0.500 0.500 0.000 2.832 0.000 FY 2012 FY 2012 FY 2012 Test and Evaluation (\$ in Millions) **FY 2011** Base oco Total Contract **Total Prior** Target Method Performing Years Award **Award** Award Cost To Value of **Cost Category Item** & Type **Activity & Location** Cost Cost Date Cost Date Cost Date Cost Complete **Total Cost** Contract Subtotal 0.000 0.000 0.000 FY 2012 FY 2012 FY 2012 Management Services (\$ in Millions) FY 2011 oco Base Total Contract **Total Prior Target** Method Performing Years Award Award **Cost To** Value of Award **Cost Category Item** & Type **Activity & Location** Cost Cost Date Cost Date Cost Date Cost Complete **Total Cost** Contract Quantech PASS:ESC, Program Management C/FFP 0.236 Continuing 0.232 Nov 2010 0.247 Jan 2012 0.247 Continuina TBD HAFB. MA Support-1 Program Management Jacobs ETASS:ESC, C/FFP Continuing 0.179 0.188 Dec 2010 0.161 Jan 2012 0.161 Continuing TBD Support-2 HAFB, MA Program Management Quantech C/FFP 0.000 0.096 0.000 0.096 Support-GAPS/AWS PASS:ESC.HAFB. MA 0.424 0.408 0.408 Subtotal 0.507 **Total Prior** Target FY 2012 Value of Years FY 2012 FY 2012 Cost To FY 2011 oco Cost Base Total Complete **Total Cost** Contract **Project Cost Totals** 15.356 10.863 8.365 8.365

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Remarks

| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force DATE: February 2011 | | | | | | | | | | |
|---|---|--|--|--|--|--|--|--|--|--|
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force | R-1 ITEM NOMENCLATURE PE 0207449F: C2 Constellation | PROJECT 675078: Horizontal Integration | | | | | | | | |
| BA 7: Operational Systems Development | | <u> </u> | | | | | | | | |
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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force **DATE:** February 2011 APPROPRIATION/BUDGET ACTIVITY R-1 ITEM NOMENCLATURE PROJECT 3600: Research, Development, Test & Evaluation, Air Force PE 0207449F: C2 Constellation 675078: Horizontal Integration BA 7: Operational Systems Development

Schedule Details

| | St | art | End | | |
|---|---------|------|---------|------|--|
| Events | Quarter | Year | Quarter | Year | |
| Requirements/Capability Based Planning | 1 | 2010 | 4 | 2014 | |
| Integrated Ops Environment and C2 Framework | 1 | 2010 | 4 | 2014 | |
| Architecture Development and Systems Engineering | 1 | 2010 | 4 | 2014 | |
| Analysis (Integration/Ops/Tech) and Systems Engineering | 1 | 2010 | 4 | 2014 | |
| M&S Infrastructure and Experimentation | 1 | 2010 | 3 | 2011 | |
| Horizontal Integration Solutions | 1 | 2010 | 4 | 2014 | |

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DATE: February 2011

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| 3600: Research, Development, Test BA 7: Operational Systems Develop | & Evaluation | n, Air Force | | | 9F: C2 Cons | _ | | 675140: Joint Expeditionary Force Experiments | | | | | |
|--|--------------|-----------------|----------------|------------------|-------------|---------|---------|---|---------------------|------------|------------|--|--|
| COST (\$ in Millions) | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost | | | |
| 675140: Joint Expeditionary Force Experiments | 14.022 | 13.366 | 9.737 | - | 9.737 | 9.591 | 8.353 | - | - | Continuing | Continuing | | |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |

A. Mission Description and Budget Item Justification

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force

ADDDODDIATION/DUDGET ACTIVITY

The Joint Expeditionary Force Experiments (JEFX) and supporting Limited Objective Experiments (LOE) are warfighter experiments that address emerging operational challenges and are part of the Air Force (AF) concept development and experimentation enterprise. JEFX/LOE activities are: exploring significant capability gaps across the range of AF Concept of Operations (CONOPS;addressing critical lessons learned from recent operations, findings from the Air Force Capabilities Review and Risk Assessments and the Combatant Commander's and Services Warfighter Challenge program; creating operationally representative warfighter environments through the combination of constructive, live-fly forces and virtual forces and simulations; providing a multi-dimensional, multi-national, multi-service/Joint environment for an end-to-end process of innovation, experimentation, assessment, and transition of capabilities; providing joint and coalition warfighters with solutions to critical warfighting gaps; demonstrating emerging Air Force capabilities to deploy and employ decisive air, space and cyberspace power for the Joint Force Commander; enabling innovation and transformation. Unique systems and process integration capabilities are the major reasons JEFX is an experiment and not simply a demonstration or exercise. JEFX activities also include studies and analysis to support both current program planning and execution and future program planning. This program is in Budget Activity 7 - Operational System Development because it provides horizontal integration of the efforts of developers, testers, and warfighters to experiment, analyze, and explore operational concepts and new technologies to enhance operational system developments and improve capabilities of the air, space, and cyberspace forces.

| B. Accomplishments/Planned Programs (\$ in Millions) | | | FY 2012 | FY 2012 | FY 2012 |
|--|---------|---------|---------|---------|---------|
| | FY 2010 | FY 2011 | Base | oco | Total |
| Title: Arch, SE and Initiatives | 2.447 | 2.928 | 2.108 | - | 2.108 |
| Description: Spiral develop systems architecture, systems engineering, and integration of initiatives into a cohesive system of systems process | | | | | |
| FY 2010 Accomplishments: Irregular Warfare. Involves 12 critical NAF sponsored initiatives aimed at improving C2 & ISR integration in support of Joint operations including UAV data encryption and improved B2/AWACS communications; tactical C2 and JAGIC integration with the Army; AF/Navy/Army/SOF airborne IP integration. SPIRIT ICE provides a cost effective, operationally configured environment to easily discover data link interoperability issues, improving B-2/AWACS combat readiness. | | | | | |
| FY 2011 Plans: | | | | | |

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|---|--|---------|-----------------------|-----------------|----------------|------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force | | | D | ATE: Febru | ary 2011 | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | R-1 ITEM NOMENCLATURE PE 0207449F: C2 Constellation | | ROJECT 5140: Joint | Expeditiona | ary Force E | xperiments |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| Day Without Space. Will continue experimentation efforts with focus communications, systems, and TTPs affected by loss or disruption of intentional factors; evaluating effects and refining technologies, Tact at improving AF contributions to the Joint Warfighters assuring miss Increasing focus on rapid spiral fielding in support of tactical operation. | of space signals due to atmospheric or ics, Techniques, and Procedures aimed ion assurance in a contested environment. | | | | | |
| FY 2012 Base Plans: Continue support for Architecture, SE, and JEFX activities. JEFX 12 per CORONA Fall 2009 direction: (1)Lack AF-wide IAMD knowledge (2)Significant C-NAF organization & personnel deficiencies; (3)Lack oversight & fidelity; and (4)Obsolete C2 radars / sensors, & C2 system To address these issues, JEFX will initiate integration of the BMD syprocess initiatives into the AOC Weapons System with the goal of full Mission capabilities of the JFACC and AADC. Will also initiate the Cast the relevant operational scenario for JEFX 12. | e & emphasis—strategic to tactical; exercise, experimentation & wargame ems lack integration with joint partners. vstems (C2BMC) & other technology and ill integration into the Joint Counter Air | | | | | |
| FY 2012 OCO Plans: | | | | | | |
| Title: Plan and Design | | 4.125 | 3.829 | 2.799 | - | 2.799 |
| Description: Plan, design, coordinate, assess and report the JEFX initiative selection, acquisition, program management, communication | | | | | | |
| FY 2010 Accomplishments: Irregular Warfare. Involves 12 critical NAF sponsored initiatives aimes support of Joint operations including UAV data encryption and impro C2 and JAGIC integration with the Army; AF/Navy/Army/SOF airbor cost effective, operationally configured environment to easily discov B-2/AWACS combat readiness. | oved B2/AWACS communications; tactical ne IP integration. SPIRIT ICE provides a | | | | | |
| FY 2011 Plans: Day Without Space. Will continue experimentation efforts with focus communications, systems, and TTPs affected by loss or disruption contentional factors; evaluating effects and refining technologies, Taci | of space signals due to atmospheric or | | | | | |

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| R-PROPRIATION/BUDGET ACTIVITY 600: Research, Development. Test & Evaluation, Air Force 8A 7: Operational Systems Development 8. Accomplishments/Planned Programs (\$ in Millions) Fy 2010 8. Fy 2010 8. Fy 2011 8. Fy 2012 8. Fy 2011 8. Fy 2012 8. Fy 2011 8. Fy 2012 | | UNCLASSIFIED | | | | | |
|---|---|--|---------|---------|-------------|-------------|------------------|
| 1800: Research, Development, Test & Evaluation, Air Force 3A 7: Operational Systems Development 8. Accomplishments/Planned Programs (\$ in Millions) 8. Accomplishments. 8. Accomplishments (Paulus (\$ in Millions) 8. Accomplishments (\$ in Millions) 9. Accomplishment (\$ | Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force | | | D | ATE: Febru | ary 2011 | |
| timproving AF contributions to the Joint Warfighters assuring mission assurance in a contested environment. ncreasing focus on rapid spiral fielding in support of tactical operations; airborne communication integration. FY 2012 Base Plans: Continue support for plan & design activities. JEFX 12 LOEs will focus on the 4 issues outlined per CORONA Forganization & Personnel deficiencies; (3)Lack exercise, experimentation & wargame oversight & fidelity; and 4)Obsolete C2 radars / sensors, & C2 systems lack integration with joint partners. To address these issues, IEFX will initiate integration of the BMD systems (C2BMC) & other technology and process initiatives into the AOC Weapons System with the goal of full integration into the Joint Counter Air Mission capabilities of the IFACC and AADC. Will also initiative to introduce new technologies and operational scenario for JEFX 12. FY 2012 OCO Plans: Title: Develop Initiatives to introduce new technologies and operational capabilities into the Aerospace Expeditionary Force (AEF) Concept of Operations (CONOPS) FY 2010 Accomplishments: regular Warfare. Involves 12 critical NAF sponsored initiatives aimed at improving C2 & ISR integration in support of Joint operations including UAV data encryption and improved B2/AWACS communications; tactical C2 and JAGIC integration with the Army, AF/Navy/Army/SOF airborne IP integration. SPIRIT ICE provides a 2-2/AWACS combat readiness. FY 2011 Plans: Day Without Space. Will continue experimentation efforts with focus on tactical and strategic architectures, communications to the Joint Warfighters assuring mission assurance in a contested environment. Increasing focus on rapid spiral fielding in support of factical operations; airborne communication integration. | APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | | I | | Expeditiona | ary Force E | xperiments |
| ncreasing focus on rapid spiral fielding in support of tactical operations; airborne communication integration. FY 2012 Base Plans: Continue support for plan & design activities. JEFX 12 LOEs will focus on the 4 issues outlined per CORONA Fall 2009 direction: (1)Lack AF-wide IAMD knowledge & emphasis—strategic to tactical; (2)Significant C-NAF organization & personnel deficiencies; (3)Lack exercise, experimentation & wargame oversight & fidellity; and 4)Obsolete C2 radiars / sensors, & C2 systems lack integration with joint partners. To address these issues, IEFX will initiate integration of the BMD systems (C2BMC) & other technology and process initiatives into the AOC Weapons System with the goal of full integration into the Joint Counter Air Mission capabilities of the DIFACC and AADC. Will also initiate the CSAF/CNO initiative (Air Sea Battle concept) as the relevant operational scenario for JEFX 12. FY 2012 OCO Plans: Title: Develop initiatives to introduce new technologies and operational capabilities into the Aerospace Expeditionary Force (AEF) Concept of Operations (CONOPS) FY 2019 Accomplishments: rregular Warfare. Involves 12 critical NAF sponsored initiatives aimed at improving C2 & ISR integration in support of Joint operations including UAV data encryption and improved B2/AWACS communications; tactical Support of Joint operations including UAV data encryption and improved B2/AWACS communications; tactical Support of Joint operations with the Army; AF/Navy/Army/SOF airborne IP integration. SPIRIT ICE provides a sost effective, operationally configured environment to easily discover data link interoperability issues, improving 3-2/AWACS combat readiness. FY 2011 Plans: Day Without Space. Will continue experimentation efforts with focus on tactical and strategic architectures, communications, systems, and TTPs affected by loss or disruption of space signals due to atmospheric or ntentional factors; evaluating effects and refining technologies, Tactics, Techniques, and Procedures aimed at impro | B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2010 | FY 2011 | | | FY 2012 Total |
| Continue support for plan & design activities. JEFX 12 LOEs will focus on the 4 issues outlined per CORONA Fall 2009 direction: (1)Lack AF-wide IAMD knowledge & emphasis—strategic to tactical; (2)Significant C-NAF organization & personnel deficiencies; (3)Lack exercise, experimentation & wargame oversight & fidelity; and (4)Obsolete C2 radars / sensors, & C2 systems lack integration with joint partners. To address these issues, IEFX will initiate integration of the BMD systems (C2BMC) & other technology and process initiatives into the ACO Weapons System with the goal of full integration into the Joint Counter Air Mission capabilities of the IFACC and AADC. Will also initiate the CSAF/CNO initiative (Air Sea Battle concept) as the relevant operational scenario for JEFX 12. FY 2012 OCO Plans: Title: Develop Initiatives Description: Develop initiatives to introduce new technologies and operational capabilities into the Aerospace expeditionary Force (AEF) Concept of Operations (CONOPS) FY 2010 Accomplishments: rregular Warfare. Involves 12 critical NAF sponsored initiatives aimed at improving C2 & ISR integration in support of Joint operations including UAV data encryption and improved B2/AWACS communications; tactical 22 and JAGIC integration with the Army, AF/Navy/Army/SOF airborner IP integration. SPIRIT ICE provides a cost effective, operationally configured environment to easily discover data link interoperability issues, improving 3-2/AWACS combat readiness. FY 2011 Plans: Day Without Space. Will continue experimentation efforts with focus on tactical and strategic architectures, communications, systems, and TTPs affected by loss or disruption of space signals due to atmospheric or intentional factors; evaluating effects and refining technologies, Tactics, Techniques, and Procedures aimed at improving AF contributions to the Joint Warfighters assuring mission assurance in a contested environment. Increasing focus on rapid spiral fielding in support of tactical operations; airborne communication integr | | | | | | | |
| Title: Develop Initiatives Description: Develop initiatives to introduce new technologies and operational capabilities into the Aerospace Expeditionary Force (AEF) Concept of Operations (CONOPS) FY 2010 Accomplishments: Irregular Warfare. Involves 12 critical NAF sponsored initiatives aimed at improving C2 & ISR integration in support of Joint operations including UAV data encryption and improved B2/AWACS communications; tactical C2 and JAGIC integration with the Army; AF/Navy/Army/SOF airborne IP integration. SPIRIT ICE provides a cost effective, operationally configured environment to easily discover data link interoperability issues, improving 3-2/AWACS combat readiness. FY 2011 Plans: Day Without Space. Will continue experimentation efforts with focus on tactical and strategic architectures, communications, systems, and TTPs affected by loss or disruption of space signals due to atmospheric or intentional factors; evaluating effects and refining technologies, Tactics, Techniques, and Procedures aimed at improving AF contributions to the Joint Warfighters assuring mission assurance in a contested environment. Increasing focus on rapid spiral fielding in support of tactical operations; airborne communication integration. | Fall 2009 direction: (1)Lack AF-wide IAMD knowledge & emphasis-organization & personnel deficiencies; (3)Lack exercise, experimen (4)Obsolete C2 radars / sensors, & C2 systems lack integration with JEFX will initiate integration of the BMD systems (C2BMC) & other AOC Weapons System with the goal of full integration into the Joint JFACC and AADC. Will also initiate the CSAF/CNO initiative (Air Sescenario for JEFX 12. | —strategic to tactical; (2)Significant C-NAF tation & wargame oversight & fidelity; and n joint partners. To address these issues, technology and process initiatives into the Counter Air Mission capabilities of the | | | | | |
| Description: Develop initiatives to introduce new technologies and operational capabilities into the Aerospace Expeditionary Force (AEF) Concept of Operations (CONOPS) FY 2010 Accomplishments: rregular Warfare. Involves 12 critical NAF sponsored initiatives aimed at improving C2 & ISR integration in support of Joint operations including UAV data encryption and improved B2/AWACS communications; tactical C2 and JAGIC integration with the Army; AF/Navy/Army/SOF airborne IP integration. SPIRIT ICE provides a cost effective, operationally configured environment to easily discover data link interoperability issues, improving 3-2/AWACS combat readiness. FY 2011 Plans: Day Without Space. Will continue experimentation efforts with focus on tactical and strategic architectures, communications, systems, and TTPs affected by loss or disruption of space signals due to atmospheric or intentional factors; evaluating effects and refining technologies, Tactics, Techniques, and Procedures aimed at improving AF contributions to the Joint Warfighters assuring mission assurance in a contested environment. Increasing focus on rapid spiral fielding in support of tactical operations; airborne communication integration. | | | 2 200 | 2 000 | 2 125 | | 2.125 |
| rregular Warfare. Involves 12 critical NAF sponsored initiatives aimed at improving C2 & ISR integration in support of Joint operations including UAV data encryption and improved B2/AWACS communications; tactical C2 and JAGIC integration with the Army; AF/Navy/Army/SOF airborne IP integration. SPIRIT ICE provides a cost effective, operationally configured environment to easily discover data link interoperability issues, improving 3-2/AWACS combat readiness. FY 2011 Plans: Day Without Space. Will continue experimentation efforts with focus on tactical and strategic architectures, communications, systems, and TTPs affected by loss or disruption of space signals due to atmospheric or intentional factors; evaluating effects and refining technologies, Tactics, Techniques, and Procedures aimed at improving AF contributions to the Joint Warfighters assuring mission assurance in a contested environment. Increasing focus on rapid spiral fielding in support of tactical operations; airborne communication integration. | · | operational capabilities into the Aerospace | 3.200 | 2.906 | 2.123 | - | 2.123 |
| Day Without Space. Will continue experimentation efforts with focus on tactical and strategic architectures, communications, systems, and TTPs affected by loss or disruption of space signals due to atmospheric or ntentional factors; evaluating effects and refining technologies, Tactics, Techniques, and Procedures aimed at improving AF contributions to the Joint Warfighters assuring mission assurance in a contested environment. ncreasing focus on rapid spiral fielding in support of tactical operations; airborne communication integration. | support of Joint operations including UAV data encryption and improc2 and JAGIC integration with the Army; AF/Navy/Army/SOF airbor | oved B2/AWACS communications; tactical rne IP integration. SPIRIT ICE provides a | | | | | |
| FY 2012 Base Plans: | communications, systems, and TTPs affected by loss or disruption intentional factors; evaluating effects and refining technologies, Tac at improving AF contributions to the Joint Warfighters assuring miss | of space signals due to atmospheric or tics, Techniques, and Procedures aimed sion assurance in a contested environment. | | | | | |
| 2012 2000 1 2000 | FY 2012 Base Plans: | | | | | | |

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|--|---|---------|--------------------|-----------------|----------------|------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force | | | D | ATE: Febru | ary 2011 | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | R-1 ITEM NOMENCLATURE PE 0207449F: C2 Constellation | | ROJECT 5140: Joint | Expeditiona | ary Force E | xperiments |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| Continue support for initiative development. JEFX 12 LOEs will for Fall 2009 direction: (1)Lack AF-wide IAMD knowledge & emphasis-organization & personnel deficiencies; (3)Lack exercise, experimen (4)Obsolete C2 radars / sensors, & C2 systems lack integration wit JEFX will initiate integration of the BMD systems (C2BMC) & other AOC Weapons System with the goal of full integration into the Join JFACC and AADC. Will also initiate the CSAF/CNO initiative (Air Scenario for JEFX 12. | —strategic to tactical; (2)Significant C-NAF ntation & wargame oversight & fidelity; and h joint partners. To address these issues, technology and process initiatives into the t Counter Air Mission capabilities of the | | | | | |
| FY 2012 OCO Plans: | | | | | | |
| Title: Implement Arch Config | | 3.500 | 3.023 | 2.209 | _ | 2.209 |
| Description: Implement architectural configuration, conduct M&S, infrastructure and execute the experiment | install and the test the communications | | | | | |
| FY 2010 Accomplishments: Irregular Warfare. Involves 12 critical NAF sponsored initiatives aim support of Joint operations including UAV data encryption and impr C2 and JAGIC integration with the Army; AF/Navy/Army/SOF airbo cost effective, operationally configured environment to easily discoved B-2/AWACS combat readiness. | roved B2/AWACS communications; tactical orne IP integration. SPIRIT ICE provides a | | | | | |
| FY 2011 Plans: Day Without Space. Will continue experimentation efforts with focus communications, systems, and TTPs affected by loss or disruption intentional factors; evaluating effects and refining technologies, Tag at improving AF contributions to the Joint Warfighters assuring miss Increasing focus on rapid spiral fielding in support of tactical operations. | of space signals due to atmospheric or ctics, Techniques, and Procedures aimed sion assurance in a contested environment. | | | | | |
| FY 2012 Base Plans: Continue support for Architecture Implementation activities. JEFX per CORONA Fall 2009 direction: (1)Lack AF-wide IAMD knowledg (2)Significant C-NAF organization & personnel deficiencies; (3)Lack oversight & fidelity; and (4)Obsolete C2 radars / sensors, & C2 systems. | ge & emphasis—strategic to tactical; k exercise, experimentation & wargame | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force | | | D | ATE: Febru | ary 2011 | | | |
|---|--|--|---------|-----------------|----------------|------------------|--|--|
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | R-1 ITEM NOMENCLATURE PE 0207449F: C2 Constellation | PROJECT 675140: Joint Expeditionary Force Expe | | | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | | |
| To address these issues, JEFX will initiate integration of the BMD sysprocess initiatives into the AOC Weapons System with the goal of full Mission capabilities of the JFACC and AADC. Will also initiate the CS as the relevant operational scenario for JEFX 12. | | | | | | | | |
| FY 2012 OCO Plans: | | | | | | | | |
| Title: Transition | | 0.750 | 0.678 | 0.496 | - | 0.496 | | |
| Description: Transition successful JEFX assessed and CSAF approx an integrated C2ISR baseline | Description: Transition successful JEFX assessed and CSAF approved warfighting capabilities for fielding into | | | | | | | |
| FY 2010 Accomplishments: Irregular Warfare. Involves 12 critical NAF sponsored initiatives aimed support of Joint operations including UAV data encryption and improve C2 and JAGIC integration with the Army; AF/Navy/Army/SOF airborned cost effective, operationally configured environment to easily discover B-2/AWACS combat readiness. | ed B2/AWACS communications; tactical P integration. SPIRIT ICE provides a | | | | | | | |
| FY 2011 Plans: Day Without Space. Will continue experimentation efforts with focus of communications, systems, and TTPs affected by loss or disruption of intentional factors; evaluating effects and refining technologies, Tactic at improving AF contributions to the Joint Warfighters assuring mission Increasing focus on rapid spiral fielding in support of tactical operation. | space signals due to atmospheric or ss, Techniques, and Procedures aimed n assurance in a contested environment. | | | | | | | |
| FY 2012 Base Plans: Continue support for Transition activities. JEFX 12 LOEs will focus of Fall 2009 direction: (1)Lack AF-wide IAMD knowledge & emphasis—sorganization & personnel deficiencies; (3)Lack exercise, experimentar (4)Obsolete C2 radars / sensors, & C2 systems lack integration with judgets will initiate integration of the BMD systems (C2BMC) & other tease AOC Weapons System with the goal of full integration into the Joint Cartesian Cartesian System with the goal of full integration into the Joint Cartesian System with the goal of full integration into the Joint Cartesian System with the goal of full integration into the Joint Cartesian System with the goal of full integration into the Joint Cartesian System System with the goal of full integration into the Joint Cartesian System | strategic to tactical; (2) Significant C-NAF tion & wargame oversight & fidelity; and point partners. To address these issues, chnology and process initiatives into the | | | | | | | |

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DATE: February 2011

9.737

9.737

14.022

13.366

| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | R-1 ITEM NOMENCLATURE PE 0207449F: C2 Constellation | | ary Force E | Experiments | | |
|---|---|--------|-------------|-----------------|----------------|------------------|
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 201 | 0 FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| JFACC and AADC. Will also initiate the CSAF/CNO initiative (Air Se scenario for JEFX 12. | ea Battle concept) as the relevant operational | | | | | |
| FY 2012 OCO Plans: | | | | | | |

C. Other Program Funding Summary (\$ in Millions)

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force

| | | | FY 2012 | FY 2012 | FY 2012 | | | | | Cost To | |
|------------------|---------|---------|-------------|---------|--------------|---------|---------|---------|---------|-----------------|-------------------|
| <u>Line Item</u> | FY 2010 | FY 2011 | Base | OCO | <u>Total</u> | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Complete | Total Cost |
| N/A: Other | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |

Accomplishments/Planned Programs Subtotals

D. Acquisition Strategy

JEFX supports evolutionary acquisition of multiple programs by providing a venue to experiment new and emerging technologies to be integrated into other systems-ofrecord.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force

BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0207449F: C2 Constellation

DATE: February 2011

PROJECT

675140: Joint Expeditionary Force Experiments

| Product Development (\$ in Millions) | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | | | |
|--------------------------------------|------------------------------|---|------------------------------|-----------------|---------------|----------------|---------------|------------------|---------------|-------|---------------------|------------|--------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Experimentation-1 | C/CPAF | MITRE:ESC Hanscom AFB, MA | 2.000 | 2.286 | Oct 2010 | 2.254 | Oct 2011 | - | | 2.254 | Continuing | Continuing | TBD |
| Experimentation-3 | C/FFP | Quantech:ESC Hanscom AFB, MA | 0.251 | 0.285 | Oct 2010 | 0.285 | Oct 2011 | - | | 0.285 | Continuing | Continuing | TBD |
| Experimentation-4 | C/CPAF | Lockheed Martin:ESC Hanscom AFB, MA | 0.329 | - | | - | | - | | - | 0.000 | 0.329 | 0.329 |
| Experimentation-5 | Various | ESC:Hanscom AFB, MA | 0.372 | 0.649 | Oct 2010 | 0.649 | Oct 2011 | - | | 0.649 | Continuing | Continuing | TBD |
| Experimentation-6 | C/CPFF | Spectrum:AFRL Rome, NY | 5.022 | 5.540 | Nov 2010 | 3.400 | Oct 2011 | - | | 3.400 | Continuing | Continuing | TBD |
| Experimentation-7 | C/CPAF | L-3 Services:Hurlburt Field, FL | 1.500 | 1.500 | Nov 2010 | 1.000 | Nov 2011 | - | | 1.000 | Continuing | Continuing | TBD |
| Experimentation-8 | C/CPAF | Jacob Sverdrup:Hurlburt Field, FL | 0.200 | 0.200 | Nov 2010 | - | | - | | - | 0.000 | 0.400 | 0.400 |
| Experimentation-9 | C/CPFF | Northrop Grumman:AFRL/Rome, NY | 1.843 | 1.404 | Nov 2010 | 0.725 | Nov 2011 | - | | 0.725 | Continuing | Continuing | TBD |
| Experimentation-10 | C/CPFF | Macauly Brown:Hampton, VA | 0.540 | - | | - | | - | | - | 0.000 | 0.540 | 0.540 |
| Experimentation-11 | C/CPFF | SAIC:San Diego, CA | 0.456 | 0.275 | Nov 2010 | 0.275 | Nov 2011 | - | | 0.275 | Continuing | Continuing | TBD |
| Experimentation-12 | MIPR | 46TS:Eglin AFB, FL | 0.313 | 0.250 | Nov 2010 | 0.250 | Nov 2011 | - | | 0.250 | Continuing | Continuing | TBD |
| Experimentation-13 | MIPR | AFC2IC:Hampton, VA | 0.971 | 0.852 | Nov 2010 | 0.774 | Nov 2011 | - | | 0.774 | Continuing | Continuing | TBD |
| Experimentation-14 | MIPR | 98RANWG:Nellis AFB, NV | 0.225 | 0.125 | Nov 2010 | 0.125 | Nov 2011 | - | | 0.125 | Continuing | Continuing | TBD |
| | | Subtotal | 14.022 | 13.366 | | 9.737 | | - | | 9.737 | | | |

DATE: February 2011

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force

| APPROPRIATION/BUD 3600: <i>Research, Develo</i> BA 7: <i>Operational Syste</i> | opment, Test | & Evaluation, Air Fo | rce | | ITEM NON 0207449F: | | _ | | PROJ 67514 | | peditionary | y Force Exp | periments |
|---|------------------------------|-----------------------------------|------------------------------|---------|------------------------------|-----------------|---------------|----------------|-------------------|------------------|---------------------|-------------|--------------------------------|
| Support (\$ in Millions) |) | | | FY 2 | 2011 | | 2012 ise | FY 2 | | FY 2012 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| | | Subtotal | - | - | | - | | - | | - | 0.000 | 0.000 | 0.000 |
| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| | | Subtotal | - | - | | - | | - | | - | 0.000 | 0.000 | 0.000 |
| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| | | Subtotal | - | - | | - | | - | | - | 0.000 | 0.000 | 0.000 |
| | | | Total Prior Years Cost | FY 2 | 2011 | Ва | 2012 Ise | FY 2 OC | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
| | | Project Cost Totals | 14.022 | 13.366 | | 9.737 | | - | | 9.737 | | | |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force | | DATE: February 2011 |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | R-1 ITEM NOMENCLATURE PE 0207449F: C2 Constellation | PROJECT 675140: Joint Expeditionary Force Experiment |
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| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force DATE: February 2011 | | | | |
|--|-------------------------------|-------------------|-------------------------------------|--|
| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT | | |
| 3600: Research, Development, Test & Evaluation, Air Force | PE 0207449F: C2 Constellation | 675140: <i>Jo</i> | int Expeditionary Force Experiments | |
| BA 7: Operational Systems Development | | | | |

Schedule Details

| | St | End | | |
|---------------------------------------|---------|------|---------|------|
| Events | Quarter | Year | Quarter | Year |
| Arch, SE, Initiatives Calls | 1 | 2010 | 4 | 2014 |
| Plan and Design | 1 | 2010 | 4 | 2014 |
| Develop Initiatives | 1 | 2010 | 4 | 2014 |
| Implement Arch Config (JEFX and LOEs) | 1 | 2010 | 4 | 2014 |
| Transitions, Assessment | 1 | 2010 | 4 | 2014 |